



EQUILIBRIUM

November 2018

Newsletter of the Seattle Chapter
Structural Engineers Association of Washington

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Seattle Chapter November Dinner Meeting

Topic: The Sanctuary: Revitalizing Seattle's Oldest Church



(Photo Courtesy: Lara Swimmer)

Tuesday, November 27, 2018
5:30 pm to 8:15 pm

Hotel Monaco
1101 Fourth Avenue
Seattle, WA 98101

Register Today!

Located at the corner of 5th and Columbia in downtown Seattle, the Sanctuary is a historic structure that dates back to 1855 and was the meeting place for First United Methodist Church. This presentation will outline the Sanctuary renovation project and its integration with the new F5 Tower.

Benefits and knowledge our members can expect to take away from the presentation:

- Members will get an in-depth look at the history of this iconic structure
- A behind-the-scenes look at the project's design and construction. Lateral and gravity support elements were

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integrated into the landmarked building while working around the large Sanctuary and its interiors.

- An appreciation of the logistical and engineering challenges created by the tight urban site which is shared with the new F5 tower and landmarked Rainier Club.

Speaker(s):

Steve Savage, P.E., S.E.

Structural Associate, Coughlin Porter Lundeen

Steve is one of Coughlin Porter Lundeen's foremost authorities in renovations and retrofits. His historic renovation portfolio includes multiple icons on the Seattle skyline: King County Courthouse, Smith Tower, Starbucks Center, Union Station, and the Paramount Theatre. He was the lead structural engineer for the conversion the First United Methodist Church into The Sanctuary.

Matt Snook, P.E., S.E.

Structural Associate, Coughlin Porter Lundeen

Matt has an extensive portfolio of innovative healthcare, science, research, and technology facilities in the Pacific Northwest. He was a structural project manager for The Allen Institute, an award-winning project that integrated a historical façade into a life sciences research facility.

Agenda:

5:15 pm – 6:00 pm Registration/Networking
6:00 pm – 6:30 pm Dinner
6:50 pm – 7:00 pm Welcome/Announcements
7:00 pm – 8:15 pm Program

Registration Fees:

\$45 - Members (\$40 early bird)
\$50 - Non-members & Guests
\$35 - YMG (\$30 early bird)
\$15 - Students

Register Today!

Early bird rates end November 23, 2018. YMG rate applies to Engineers under 35 for both members and non-members.

October Dinner Meeting Recap

By Alejandro Esparza



Joyce Lem with her Life Member award.

After a lively reception and a great dinner, several announcements were given by the leadership of SEAW. Among these, Joyce Lem received a Life Member award for her continuous support of this organization from the hands of Shalini Prochazka, Director of SEAW Seattle Chapter.

Immediately after, Matthew Copus from Hall & Company began his presentation on Professional Liability Insurance. Understanding his audience, Matthew started from a basic level and explained the first principles of this type of insurance. [Read More](#)

Engineer's Notes from Afield

By Darrell Staaleson

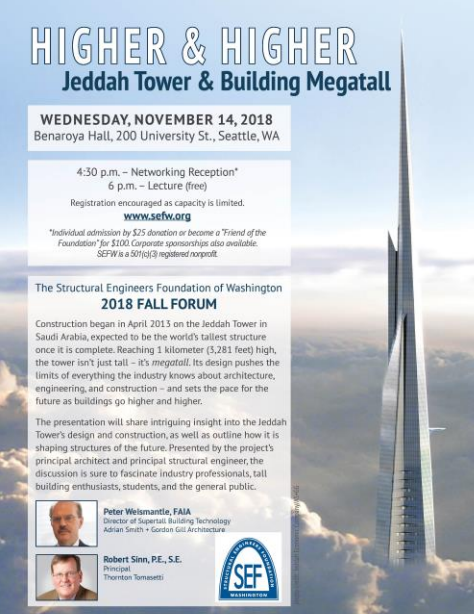


At the NCSEA Convention in Chicago this year, we had the opportunity to tour the Atlas Tube Plant.

When we arrived, we were given the choice of having the lecture before or after the plant tour. We ran for the door – “Tour First!”, I and 50 other stampeding engineers yelled, none of us wanting to be trapped in yet another lecture, no matter how well-prepared or interesting the Plant Engineer was. (We were late back to the barn and only caught the last 10 minutes of the lecture. But I have to admit that the Plant Engineer, to his credit, gave a really interesting presentation, was very well prepared, and had obviously been trained by the marketing people on how not to bore the hell out of engineers. You’ll get a chance to judge for yourself as I’ve invited Atlas Tube to speak at one of our dinner meetings in the spring.) [Read More](#)

Register for the SEFW Fall Forum today!

By Angela Gottula Twining



HIGHER & HIGHER
Jeddah Tower & Building Megatall

WEDNESDAY, NOVEMBER 14, 2018
Benaroya Hall, 200 University St., Seattle, WA

4:30 p.m. – Networking Reception*
6 p.m. – Lecture (free)
Registration encouraged as capacity is limited.
www.sefw.org

*Individual admission by \$25 donation or become a "Friend of the Foundation" for \$100. Corporate sponsorships also available.
SEFW is a 501(c)(3) registered nonprofit.


The Structural Engineers Foundation of Washington
2018 FALL FORUM

Construction began in April 2013 on the Jeddah Tower in Saudi Arabia, expected to be the world's tallest structure once it is complete. Reaching 1 kilometer (3,281 feet) high, the tower isn't just tall – it's *megatall*. Its design pushes the limits of everything the industry knows about architecture, engineering, and construction – and sets the pace for the future as buildings go higher and higher.

The presentation will share intriguing insight into the Jeddah Tower's design and construction, as well as outline how it is shaping structures of the future. Presented by the project's principal architect and principal structural engineer, the discussion is sure to fascinate industry professionals, tall building enthusiasts, students, and the general public.

Peter Weissmantle, FAIA
Director of Supertall Building Technology
Adrian Smith + Gordon Gill Architecture

Robert Sinn, P.E., S.E.
Principal
Thorburn Tomasetti



Did You Know...

- To create a building as tall as the Jeddah Tower (1,000+ meters), you'd have to combine the Columbia Tower, Two Union, One Union, Russell Investments Tower, AND the Space Needle -- all stacked on top of each other?
- The Jeddah Tower features 2,200 parking spaces below the building, which is more than the entire Safeco Field garage?
- The amount of concrete used for the Jeddah Tower would fill 15 Olympic-sized swimming pools?
- There are 5,512 steps to the top of the Jeddah Tower? That is twice the number of steps in Machu Picchu, which would take about 3 hours to climb!
- The temperature at the top of Jeddah Tower is almost 40 degrees Fahrenheit cooler than at the bottom? That means you could lounge in 70-degree heat outside the lobby, yet have to bundle up for the 30-degree cold outside the spire.

[Read More](#)

NCSEA Annual Report to SEAW Equilibrium

By Chun Lau

SEAW State Delegate

The National Council of Structural Engineers Associations (NCSEA) is now in its 27th year of existence and is currently comprised of 44 state Structural Engineers Associations throughout the United States. SEAW was a chartered member at the inception of the Council and is one of the largest Member Organizations (MO) with our membership of over 900.

A refresher on what your NCSEA membership will get you is on the membership benefits page of the NCSEA website: [Membership Benefits](#). One of the major benefits is that you are entitled to

receive discounts of up to 25% (ICC member rates) on publications purchased through ICC, including Building Codes and referenced standards. [Read More](#)

Structural Masonry Design Webinar

By Tom Young

The Northwest Concrete Masonry Association is sponsoring a three-part webinar series on reinforced masonry design. It will focus on the requirements of the 2015 IBC and 2013 TMS 402/ACI 530 codes. Both working stress and strength design of reinforced concrete masonry will be covered.

Learn how to use and interpret the building code through masonry building element design examples. Participants will earn continuing education credit. [Learn More](#)

YMG Corner

By Samiah Rizvi

In October, SEAW YMG teamed up with HILTI for our annual event. The event was hosted on a 3-hour cruise around Lake Union.

Carlin Gerstenberger from HILTI spoke to the structural engineers to kick us off, and the rest of the event was spent eating, drinking, and networking between various engineers on the cruise. More than 14 engineering companies were represented aboard. [Read More](#)



The engineering group on the YMG Cruise

Degenkolb's Ocosta Elementary Recognized with NCSEA Award

By Cale Ash, PE, SE, Principal, Degenkolb Engineers



Eckert and Eckert Photography. Ocosta Elementary School Tsunami Evacuation Tower.

The Ocosta Elementary School and Tsunami Evacuation Tower, designed by Degenkolb Engineers, has won the Outstanding Award in the category 'New Buildings Less Than \$20 Million' at the 2018 National Council of Structural Engineers Associations (NCSEA) Excellence in Structural Engineering Awards.

More than 100,000 people are at risk from a tsunami on the Pacific Northwest coastline and waves could hit the coast within 30 minutes of an earthquake on the Cascade Subduction Zone. Recognizing that this is insufficient time for evacuation, the residents of Westport, Washington, recently completed a project that includes the nation's first tsunami evacuation refuge. [Read More](#)

State and Chapter Committee Reports

Contact the committee chair if you are interested in learning more or getting involved:

- NCSEA Delegate – Chun Lau

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- Earthquake Engineering Committee – Kai Ki Mow
One of the current main focus and an important topic that the committee hopes to address in the upcoming year is the Increased Seismic Load in the newly published ASCE 7-16. Members interested in EEC can find additional information regarding the meeting on the [SEAW website calendar](#) or can contact the committee chair.
 - Outreach Committee - Pete Opsahl
To sign up to volunteer or to mentor, [visit the SEFW page](#).
 - Sustainability Committee – Rachel Vranizan
 - Refresher Committee – Mark Whiteley
 - Public Information Committee – Darrell Staaleson
 - Disaster Preparation/Response Committee – Joyce Lem
 - WABO Liaison Committee – Charlie Griffes
The SEAW/WABO Liaison committee is now available for questions from SEAW or WABO members. These questions can be about subjects addressed in the white papers already issued or general questions in the realm of structural engineering practice as it relates to interaction with the various building departments. Comments or questions can be emailed to charlie@ctengineering.com.
[White Paper 6b - 2017 on Deferred Submittals](#)
 - Wind Engineering Committee – Scott Douglas
 - Technology Taskforce – Morgan Wiese
 - Membership Task Group – Jill Shuttleworth
 - Continuing Education Committee – Adam Ailvers
 - Scholarship Committee – Kevin Solberg

Employment Opportunities

Are you currently seeking employment as a structural engineer, senior manager, or a senior engineer technician? Check out our job board for current employment opportunities. [Learn More](#)

Membership Postings

In accordance with SEAW bylaws, membership applications are vetted by the executive director, granted probationary status by the chapter board, and posted for membership comment. Membership is considered accepted 30 days after posting if current year dues are paid and no member objections have been received. [Read More](#)

Help Wanted - Lund Opsahl

Located across the street from Safeco Field, Lund Opsahl is a growing structural engineering firm that provides a wide spectrum of services, including planning, design, seismic and damage assessments, upgrades, additions, tenant improvements, and construction support for a variety of new and existing building types in the Pacific Northwest. Our reputation as creative innovators and technical experts is built on responsive service, collaborative teamwork, and lasting relationships.

Our firm's size offers early opportunities to work on challenging projects and encourages exciting career growth uncommon at larger firms, especially for the ambitious.

Currently, we are looking for:

- Structural Engineers of all skill levels
- Full-time Administrator/Receptionist to be our first point of contact for visitors and telephone calls
- Experienced CAD/BIM Technician

BENEFITS:

- Competitive benefits and salaries
- Health, Dental, and Vision Insurance/Health Savings Account
- Performance-based bonuses
- Flexible working hours
- 401(k) with matching contribution
- Profit Sharing Plan
- PTO, and holidays
- Group activities and team events
- In-House education programs
- Free parking
- (Did we say we're next to Safeco Field?!)

Please visit our [website](#), for additional information and job descriptions for each of these positions.

Inquires and resumes may be sent to careers@lundopsahl.com.

From the Editor

By John Gunn



Equilibrium publication Team:

John Gunn, Editor

Darrell Staaleson, Past Editor

Zohrah Ali & Allison Tran - Grammar, spelling, and watching out for you'll-never-believe-how-they-spelled-that!

ACTION ITEMS:

1. All members are welcome to submit articles to Equilibrium. To help you with your writer's block, here are a few topics: Write Engineer's Notes from Afield, summarize an interesting technical design you worked on, write about how you have been successful and increased productivity with an accounting procedure or marketing technique, write about your experiences in community services, or share some construction site photos and talk about lessons learned.
2. "A Picture and a Paragraph." And please use the Article submittal form provided. Please note that when I say, "picture" I mean an actual image and not a blank space where the

picture should be. And the picture needs a caption along with the names of the people in the photo.

3. Please submit your articles in Word format using the Article Template. [[Article Template](#)]
4. Please email your articles to John Gunn (john.gunn@kpff.com)

November Puzzle:

In this episode of the Simpsons, Homer is banished to an island and convinces the locals to use animals as construction equipment.

Clue: "Cou-ch"

Look on the SEAW Facebook page for a picture clue!

The first SEAW member to respond on our SEAW Facebook Page or at the next Dinner Meeting – **with a correct and full answer** - will get coffee and a Danish pastry.

October Puzzle:

Who has been credited with coming up with the theory of evolution by natural selection besides Charles Darwin?

Bonus: What is the alternate term for the effect named after him?

Clue: He also opposed compulsory vaccination and conducted a test showing that the earth is curved.

Picture clue:



Answer: Alfred Russel Wallace is credited with co-currently inventing the concept of natural selection. The Wallace Effect, also known as reinforcement, is a process of speciation which selects against hybrids. Wallace performed extensive fieldwork in the Malay Archipelago, pictured above, and wrote a book describing his scientific exploration there. https://en.wikipedia.org/wiki/Alfred_Russel_Wallace

Upcoming Events

November 27: [Seattle Chapter Meeting](#)

November 29: [Masonry Materials, Code Overview, Beam Design, Anchor Bolts Webinar](#)

December 4: [Column Design, In-Plane Walls, Masonry Veneer Webinar](#)

December 6: [Out-of-Plane Walls, Quality Assurance, Constructability, Limit Design Webinar](#)

Structural Engineers Association of Washington
www.seaw.org | 206-209-5283 | info@seaw.org